

Towards an Improved Understanding of Illegal Logging and Associated Trade

a discussion paper

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Matthew R. Auer, C. Denise Ingram, and Christopher Farley
USDA Forest Service International Programs

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Introduction

This paper stems from discussions among U.S. government officials, non-governmental organizational actors, and representatives of industry about the need to better define the problem of illegal logging and associated trade. Further, there is a need to clarify what is known about the scope of these problems and their impacts on the environment and on domestic and international commerce. This paper does not represent the official views or positions of the U.S. government. It is meant as an informal review, in capsule form, of what is known about the scope and magnitude of illegal forestry activities and trade of illegal wood products, and it intends to inform the continuing policy debate about these problems and what to do about them.

More specifically, this paper explores policy-relevant definitions of illegal logging and associated trade; considers estimates of the geographical range and intensity of illegal forestry activities; examines how forest-related crime occurs in the context of existing forest management and trade systems; and makes reference to some of the current U.S. and international policy responses to these problems. Also considered are alternatives for applied research that could inform discussions within and outside government about prospective actions. This paper does not address illegal logging occurring in the U.S. domestic context.

What Are Illegal Logging and Associated Trade?

Illegal logging and associated trade are elusive concepts because the terms are defined in different ways by different individuals and organizations. One way to reconcile these different definitions is to identify where they converge. For example, there is broad agreement that unauthorized logging in legally designated areas where logging is prohibited constitutes illegal logging. Similarly, most experts agree that logging performed without required permits or in violation of the terms of the permits is illegal.

But others adopt much broader definitions of illegal logging or have taken up “illegal forest activities” as the mantle for discussion. In the latter conception, illegal logging is one manifestation of a larger set of illegal activities. In a study commissioned by the World Bank, Contreras-Hermosilla¹ identified 28 forms of illegal forest activities, clustered into six major subcategories: illegal occupation of forestlands; illegal logging; woodlands arson; illegal timber transport, trade and timber smuggling; transfer pricing and other illegal accounting practices; and illegal forest processing. The Food and Agriculture Organization (FAO) redacts this list in its own catalog of illegal forest activities.² (See appendix I for Contreras-Hermosilla’s full list).

The gray area of illegal logging and associated trade expands when relevant corrupt acts are included in the analysis. FAO³ identifies five common features of corrupt acts – all of which constitute illegal acts. Corrupt acts: 1) engage public officials; 2) involve public property and power; 3) are perpetrated for private gain; 4) are intentional; and 5) are surreptitious.

Illegal logging and associated trade reflect a continuum of deviance and opportunism – from single unlawful acts by small-scale users of the forests to systematic, industrial-scale, illegal logging operations. In the context of prospective global efforts to combat illegal logging, it is reasonable to focus on harvesting activities that are environmentally destructive on a large scale and that lead to major infusions of illegally harvested wood products into international commerce. Based on these criteria, *illegal logging* is provisionally defined as *large scale, destructive forest harvesting that transgresses the laws of the nation where said harvesting occurs*. *Associated trade* refers to *the international trade of illegally harvested wood from actors who export, re-export, or who import such wood*. These definitions presume that the processing and transport of illegally harvested wood constitute illegal acts. Unlawful acts in this context also include instances where individuals or organizations purchase, sell, or re-sell wood products that the purchaser, seller or re-seller know to be illegally harvested, illegally processed, or illegally transported.

This paper's definition of illegal logging is admittedly imperfect in that the laws of the harvesting nation may not conform to standards accepted in countries with well-developed legal and regulatory institutions. Hence, particularly in cases where national laws are grossly inadequate, the transgression of such laws may not be socially or environmentally objectionable. Conceivably, deviance from bad laws could lead to environmentally or morally desirable results.

Nevertheless, international and customary law dictates that nation-states retain sovereign rights to their natural resources, and hence, laws of the harvesting nation are the standard for characterizing legal and illegal uses of that nation's forests. It is unreasonable to expect other nations, including nations with weak legal and regulatory institutions, to abide by US forest-related legislation. However, the US should take exception when other nations' laws openly violate US laws and cause direct negative impacts to US commerce.

Any proposed solutions to combat illegal logging and associated trade must reflect the environmental and economic scales and intensities of the violations as well as the degree of negative impact on the long-term sustainable management of forest resources. Identifying major pathways of forest crime and illegal forest trade are first steps for problem-solving. As described below, the extant literature on illegal logging and associated trade provides numerous illustrations of large scale destructive, illegal forestry activities occurring at provincial, national, and regional scales.

A Review of Literature, Reports and Data Sources

Each year, some 14.6 million hectares of forests, an area almost the size of the State of Georgia, are lost globally as a result of forest fires, agricultural conversion, development, and other factors that include illegal harvesting.⁴ However, the portion of deforestation due to illegal activities is not known with precision, nor is it possible to establish what portion of illegal logging stems from large-scale, destructive illegal logging – which is the primary concern of this paper.⁵ The lack of specificity on the volume of illegal logging and associated trade that actually occurs reflects the challenge of monitoring and documenting phenomena that are difficult and often dangerous to track. As a proxy, analysts must rely on detailed, and preferably, verifiable evidence of

illegal forest activities – evidence which is relatively abundant, though varying in quality and reliability. There are recent surveys of the existing literature that are sufficiently comprehensive, critical, and up-to-date to serve as important cross-references for readers of this paper.^{6,7} This brief report is more concerned with identifying the key findings and key gaps in the existing literature than in reconstructing that literature.

As mentioned above, Contreras-Hermosilla⁸ classifies illegal forestry activities into six categories with attendant subcategories. Moreover, the author documents cases of forest-related crimes corresponding to each of these subcategories (see appendix II and accompanying bibliography, appendix III). Evidentiary sources for Contreras-Hermosilla's review range from reports by international financial institutions;⁹ to research-oriented NGOs;¹⁰ to watchdog and advocacy-oriented NGOs¹¹ to reports by government-appointed committees.¹² Intergovernmental bodies, such as the International Tropical Timber Organization (ITTO), have also documented illegal logging activities.¹³

In some cases, the documentation of illegal logging is of adjudicative quality, as instances of illegal forestry activities have been tried by national and international courts. Consider, for example, the verdict against Nicaragua invoked by the Inter-American Court of Human Rights in the case of illegal logging in indigenous reserves in that country.¹⁴

In many other cases, governments have formally declared that illegal logging is a serious problem, including governments of producer countries who seek to clamp down on such activities. In recent years, for example, the governments of Brazil, Cambodia, Cameroon, Democratic Republic of Congo, Gabon, Indonesia, and Peru have acknowledged domestic illegal logging problems and in some cases, have asked other countries or international organizations for assistance.¹⁵

More common still are detailed country or provincial case studies of illegal logging. These reports often rely on triangulated research methods that draw on official primary source materials, interviews, and first-hand witnessing of forest-related crimes. Consider, for example, the Environment Investigation Agency/Telapak's analysis¹⁶ of illegal forest harvesting and transshipment of sawlogs from Tanjung Puting National Park, Central Kalimantan, Indonesia. In addition to providing forensic detail of specific criminal acts, such as the interdiction in 2001 of 25,000m³ of illegal logs from cargo ships leaving Indonesia, the authors draw on governmental and other sources to describe the institutional intricacies of illegal forest-related activities in Indonesia, including rampant corruption in that nation's judicial system.

In still other studies, authors extrapolate from case material or from governmental or intergovernmental sources, such as cross border trade data inconsistencies to establish the scope of illegal logging and its aggregate economic or environmental costs. For example, by drawing on the difference between the documented legal supply and the industrial supply of wood and by evaluating stumps in areas harvested under logging permits, the Tropical Agricultural Research and Higher Education Center (CATIE) in Costa Rica estimated that between 18 and 58 percent of that country's logs entering domestic and international trade were illegally harvested.¹⁷ On the global scale, the World Bank estimates that between \$10 and \$15 billion are lost in foregone government revenue annually due to illegal logging carried out on public lands.¹⁸ This last statistic is an imprecise measure of lost income due to illegal logging – a 50 percent margin of difference between the low and high boundaries of the World Bank's estimate. On the

other hand, the low boundary estimate might give pause even to skeptics: \$10 billion of lost income exceeds the annual gross domestic product of most sub-Saharan African countries.

Imports of Illegally Harvested Wood Products into the United States

Evidence of illegal forest products entering the United States is often indirect. TRAFFIC, a joint program of the World Wildlife Fund and the World Conservation Union, infers that U.S. imports of illegal forest products are growing because of the steep growth of documented trade between the U.S. and countries with chronic illegal harvesting problems. To illustrate, the organization notes that trade in roundwood, veneer, and plywood have increased by orders of magnitude with Gabon – a nation with whom the U.S. had little or no forest products trade in the mid-to-late 1990s.¹⁹ Re-exports from China of wood originally sourced from tropical countries and from Russia constitute a special area of concern since it is assumed that China imports large quantities of illegal logs from these regions.²⁰ Papua New Guinea, Russia, Malaysia, and Gabon supplied 71 percent of Chinese log imports in 2002, up from 56 percent in 2000.²¹ But it is difficult to discern what portion of semi-processed or finished products from China and exported to major markets such as the United States, Japan and the EU contain illegal wood.

Wood products trade between the United States and developing countries, although small relative to overall U.S. consumption, can represent significant proportions of wood production and exportation from other countries. For example, of the \$1.8 billion of plywood exported by Indonesia in 2002, 192 million, or 10 percent, was destined for U.S. ports.²² According to Global Trade Atlas data, between 75 and 80 percent of Peruvian mahogany exports enter the United States.²³ The World Wildlife Fund asserts that the vast majority of Peruvian mahogany exports (largely in the form of logs and lumber) is illegally harvested – much of it seized from protected areas and indigenous reserves.²⁴ The Government of Peru estimates that the value of illegal mahogany leaving Peruvian ports exceeds the trade of legal Peruvian mahogany by a factor of three.²⁵

With the exception of U.S. Customs regulations and rules pertaining to endangered species listed in CITES appendixes, U.S. importers are not required by domestic law to show proof of legal procurement. Key functions of the U.S. Customs Service are to apply duties to certain imported goods, to inspect imports deemed at high risk of duty evasion, and to interdict illegal goods. Because of the heavy volume of goods entering U.S. ports, U.S. Customs is unable to visually inspect all shipments, much of which are containerized. (Those shipments believed at greatest risk of duty circumvention or involved with illegal trade are most likely to be visually inspected or to receive a document review that is above average in rigor). TRAFFIC has raised concern about the adequacy of current phytosanitary regulatory procedures in the United States, claiming that the Animal and Plant Health Inspection Service (APHIS), which screens timber shipments for exotic pests and diseases, has traditionally only reported violations for timber shipments containing solid wood packing materials that failed plant health requirements. Mis-declared species, contents, or volumes were not reported by APHIS²⁶ but it is not clear that the agency is authorized to make these types of inspections.²⁷

Appraising the Extant Literature

The evidence for illegal forestry activities reveals unlawful practices that are widespread and that occur frequently. But because many forest-related illegal acts are covert and easily circumvented by private and/or public sector agents, aggregate statistics lack precision, and inferences about the scope of illegal activities often rely on proxy measures. A number of experts on illegal logging, including advocates of strong responses to illegal logging, readily admit that high quality regional and global-scale data are lacking.^{28,29} Incomplete information is a perennial problem; TRAFFIC, for example, asserts³⁰ "...the amount of timber leaving the forest, mill or port in violation of national or international regulations is often estimated or extrapolated from unsubstantiated information."³¹

The International Tropical Timber Organization combats the problem of incomplete information on flows of illegal logs by relying on indirect measures of illegal logging, namely by comparing trade statistics submitted by trade partners. ITTO admits "...problems with statistical reporting together with legitimate reasons for discrepancies between trading partners' reports may reduce the utility of such analyses for identifying potentially illegal trade flows."³² Discrepancies in trade data may be due to reasons other than criminal intent or corruption, including differences in reporting periods. Relevant officials' lack of expertise, their use of improper conversion factors, and simple typographical errors (such as adding or omitting ",000") may lead to data reporting failures. But gaps and inconsistencies may themselves signal illegal acts, such as smuggling, deliberate under-reporting, non-reporting, low declared values to avoid taxes,³³ or factual inconsistencies (e.g., mis-declared species) on bills of lading or non-compliance with phytosanitary or CITES-related rules and procedures.³⁴ Imperfections in comparative trade statistics aside, ITTO is persuaded that its research results point to illegal forest-related activities and/or undocumented trade, particularly when indicative trends are pronounced and are sustained over many reporting periods. ITTO asserts,

...ITTO has found that trade flow statistics, when analyzed over a period of several years and trading partners, can be useful indicators of illegal or otherwise undocumented trade. Specifically, when discrepancies are consistent in direction across a range of trading partners and/or across a range of years for one or more trading partners, this can provide strong indication of the need for further investigation.³⁵

Policy Action Despite Imprecise Data

Like ITTO, the World Bank contends that existing confirmed and inferential reports and data on illegal harvesting and trade point to serious problems. In 1999, the Bank proclaimed,

Countries with tropical moist forest have continued to log on a massive scale, often illegally and unsustainably. In many countries, illegal logging

is similar in size to legal production. In others, it exceeds legal logging by a substantial margin....³⁶

With its new Forest Strategy and Operational Policy, the World Bank is re-engaging in forestry-related lending in tropical countries. The Bank asserts that its previous strategy, which banned lending for commercial logging in the tropics, was ineffective in promoting “good governance” in the forestry sector.³⁷

It is not only international financial institutions like the World Bank that are forging ahead with new policies and programs to promote forest law enforcement and governance. Both consumer and producer countries, the latter including countries with self-acknowledged illegal logging and trade problems, are taking action.

To illustrate, the Malaysian Government has announced a total ban on the importation of logs from Indonesia.³⁸ Malaysia’s action was taken to allay fears that its wood supply originates from illegally harvested timber and to protect the integrity of its national timber certification scheme. The government declared that the importation of logs and timber products from other countries would not be affected.

Malaysia’s initiative was partly enabled by its 2002 MOU with the Government of Indonesia to curb the flow of illegal logs from Indonesia. A similar MOU was recently signed by Indonesia and China.³⁹ Hopefully, these bilateral efforts will prove effective. For the purposes of this paper, the key point is that Indonesia, Malaysia, and China have formally acknowledged that illegal exports of logs from Indonesia are problematic and that the problem must be addressed.

It is especially significant that China admits to the importation of illegally harvested wood from Indonesia, for China is Asia’s largest producer of veneer products and the world’s third largest producer of tropical plywood.⁴⁰ Indeed, according to the ITTO, both China and Indonesia have high levels of “unofficial” industrial production,⁴¹ hence, undocumented wood products exports from these countries are relatively high, and it is not unreasonable to associate some, if not most, of the unreported industrial production with illegally harvested wood or otherwise unlawful forestry activities. Moreover, Indonesia’s admission of its large flows of illegally harvested wood tends to refute importers’ claims that Indonesian logs emanate from legal sources or that processed wood products exported from major consumers of Indonesian wood (e.g., China) are composed of legally-sourced roundwood or lumber.

Policy Action in the United States

Commitments to legal trade in wood products in the United States have been made by both public and private organizations in that country. The President’s Initiative against Illegal Logging is one obvious pledge to promote legal harvesting and trade of wood products internationally as well as domestically. The initiative adopts several approaches to combat illegal logging, including addressing legal/institutional barriers to the rule of law and on-the-ground law enforcement; harnessing technology to detect and monitor illegal logging; encouraging good business practices, transparent markets, and legal trade; and fostering enabling conditions and incentives for local communities to reduce illegal logging and conserve forests and wildlife. Another U.S. effort to promote legal trade of wood products is the commitment to full implementation of international

obligations related to trade of threatened and endangered species, such as the CITES Appendix II listing of bigleaf mahogany (*Swietenia macrophylla* King).

The private forest industry in the United States has committed to combat illegal logging and associated trade in wood products.⁴² Some wood buyers' associations and individual retailers address the problem indirectly by tracking the sources of wood used in wood products or by purchasing wood from certified forests. To illustrate, America's largest wood retailer, Home Depot, claims that it knows the wood source of 8,900 different products "...down to the blades on ceiling fans."⁴³ However, in the Home Depot case, what remains uncertain is whether the "wood source" is the actual physical source of the wood (i.e., the forest lot from which it was taken) or the institutional source (i.e., supplier) of the wood. Verifying the institutional source is less exacting than guaranteeing the legality of the wood's physical source.

There are also promising public/private/NGO partnerships underway. One is the Sustainable Forest Products Global Alliance (SFPGA) administered by the United States Agency for International Development, World Wildlife Fund, and Metafore (formerly, the Certified Forest Products Council). Among other objectives, the SFPGA aims to reduce trade in illegally harvested wood by building networks of actors who produce or trade or consume responsibly harvested forest products. Network participants include communities, land managers and owners, and the forest products industry.⁴⁴

Further Studies

As experts on illegal logging and associated trade readily admit, there are gaps in data and documentation on illegal logging and associated trade. Most prominently, national harvest level statistics, trade statistics, and law enforcement data tend to lack precision. In some cases, questionable national statistics may actually emanate from record keepers' reliance on agents who are complicit in illegal forest activities and who provide sector-wide data. In the realm of remote sensing of illegal logging, satellite imagery proves most useful when it is combined with ground efforts. Remote sensing is less valuable as an evidence-gathering and enforcement tool in the absence of ground-truthing.

Targeted research efforts that fill these information gaps could help inform policy actions to combat illegal forest activities. Nevertheless, large producer and consumer countries are taking steps to combat illegal logging and trade of illegal wood, with or without precise data. Additional studies are necessary to the extent they refine policy actions. They are not prerequisites for policy intervention because the weight of anecdotal evidence suggests, and enough countries admit (including importers and exporters), that large-scale, destructive illegal logging and associated trade are pervasive problems and are economically and environmentally objectionable. With this important proviso in mind, this study identifies six research questions whose clarification would inform U.S. policy decisions on illegal logging and associated trade. The six topics are:

1. Effects of Illegal Logging on Markets

Analyze to what extent illegal logging depresses market prices regionally and globally for wood products, and the concomitant losses (i.e., revenues; market share) to U.S. wood

products exporters (if any) as a result of competition from illegally harvested or illegally traded wood by other countries.

2. Advantages and Shortcomings of Current Policy Interventions

Evaluate existing efforts (whether in the U.S. or abroad) to interdict illegally harvested wood and/or prevent illegal harvesting so as to identify institutional gaps in such efforts and identify possible assistance strategies, e.g., SISPROF monitoring system in Brazil; and the USAID/Nature Conservancy effort to combat illegal logging in Indonesia. A targeted study might examine whether and to what extent certification schemes provide an effective tool for promoting legal logging and discouraging illegal logging.

3. Costs and Benefits of Timber Tracking

Conduct cost/benefit analyses of potential stump-to-market timber tracking procedures. Focus on identifying timber-tracking options that are neither disruptive to trade nor that create significant cost burdens on law-abiding market actors.

4. Laundering of Illegal Wood Products

Clarify how otherwise illegally harvested wood is “sanitized,” so as to appear legal once it enters the United States.

5. Indonesian Memoranda of Understanding as Models for Action

Analyze the costs and benefits of Indonesian MOUs with China, Malaysia, Japan, and the UK. Will activities under these MOUs likely prove effective and at what cost and to whom? Are these MOUs promising models for U.S. cooperation with major producer states? What are the prospective costs and benefits for the U.S. to implement such models?

6. Effects of Decentralization on Incentives for Illegal Forest Activities

Examine to what extent decentralization of authorities for forest management affect incentives for illegal logging and other illegal forest activities. It has been proposed that decentralization movements in countries such as Indonesia and Peru may be shifting rent-seeking opportunities from central governmental to more disparate and localized sets of actors, with implications for regulatory, monitoring, and interdiction policies and procedures. A prospective study would need to determine whether absolute levels of rent-seeking would likely increase in contexts where forest management authorities are devolving to provincial and local levels and/or whether the distribution of lawful rents reflect reasonable expectations among economic agents.⁴⁵

Conclusion

The disparate pieces of evidence of illegal logging and associated trade indicate that these problems are at once widespread and commonplace. Especially compelling are: a) credible reports on confirmed instances of illegal harvesting; and b) detailed analyses of pathways whereby illegal wood products enter into international commerce. However, there are data gaps at higher institutional levels, such as incomplete information on the percentage of wood exports comprised by illegal products for given

countries and the extent to which gaps in import/export data between trade partners reflect illegal logging and associated trade. Other uncertainties include verifying the legality of wood material in downstream products such as furniture, and the financial impact of these products on legal manufacturing and trade.

Incomplete information on illegal forest activities has not discouraged governments and other actors from taking steps to combat illegal activities. Not only are industrialized countries moving forward with initiatives, such as the Group of Eight's 1998 Action Programme on Forests and the European Union's Action Plan on Forest Law Enforcement, Governance and Trade, but as described above, major *exporters* of illegal wood products are also responding to pressures to clamp down on such trade.

President Bush's call for an initiative against illegal logging evinces the U.S. government's own commitment to act. A survey of the existing literature on the prevalence and pathways of illegal logging and associated trade reaffirms the President's call for action. While it is currently impractical to divine the precise scope and magnitude of such activities, documentation of systematic (as opposed to singular) acts of forest-related crime, and the widespread negative impacts on the environment, on economic development, and on the rule of law are clear and compelling.

This study identifies six important areas where further information could inform policy interventions and promote policy dialogue with different stakeholders. To illustrate, an analysis of the efficacy of Indonesia's various MOUs to stanch illegal logging and associated trade would identify the potential advantages and shortcomings of these arrangements generally, and highlight their promises and pitfalls as models for U.S. action, specifically. Similarly, a study confirming that trade of illegal wood products depresses wood prices and competes with U.S. exports of legal wood products would prove instructive to the U.S. Government and U.S.-based timber industry alike, perhaps going so far as to inform USG actions taken in bilateral or multilateral trade regimes.

These studies, were they to be performed, would facilitate and shape policy decisions rather than form prerequisites to policy action. They are worthy applied research activities that could at once sharpen policy and programmatic actions, and help ensure desired outcomes.

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¹ Contreras-Hermosilla, 2003: 10

² FAO, 2001: 89

³ FAO, 2001: 90

⁴ FAO, 2001: 6, 9

⁵ Contreras-Hermosilla, 2000: 17

⁶ e.g., Contreras-Hermosilla, 2003

⁷ e.g., Brack et al. 2002

⁸ Contreras-Hermosilla, 2003

⁹ e.g., EBRD, 1997

¹⁰ e.g., World Resources Institute, 2000

¹¹ Global Witness, 2002

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- ¹² e.g., Barnett, 1992
- ¹³ e.g., Freezailah and Chandrasekharan, 2002
- ¹⁴ Ariz. J. Int'l & Comp. Law, 2002
- ¹⁵ TRAFFIC, 2003: 4
- ¹⁶ EIA/Telepak, 2003
- ¹⁷ CATIE, 2001: 4
- ¹⁸ World Bank, 2002: 1
- ¹⁹ TRAFFIC, 2003: 4
- ²⁰ Newsweek, 2003.
- ²¹ Global Trade Information Service, 2003
- ²² Global Trade Information Service, 2003
- ²³ Global Trade Information Service, 2003
- ²⁴ Edgar Maravi, WWF-Peru, Presentation at WWF Headquarters, Washington, D.C. January 23, 2003
- ²⁵ US Embassy/Lima, 2003
- ²⁶ TRAFFIC, 2003: 6-7
- ²⁷ APHIS's procedural manual does call for the agency to "identify specifically what is in (a) shipment" as part of the process of "determining the makeup of the shipment." However, that portion of the inspection process involves scanning manifests, phytosanitary certificates, waybills, invoices, and other accompanying paperwork, but does not necessarily call for physical inspections of cargo and shipments. If special procedures for sampling or inspection are not called for, only two percent of shipments are inspected, and the inspection focuses on pest identification rather than on cargo content and volume (APHIS, 2003).
- ²⁸ see e.g., ITTO, 2002
- ²⁹ Brack et al. 2001: 12
- ³⁰ TRAFFIC, 2003: 2
- ³¹ On the other hand, it is not unreasonable to rely on proxy measures to determine the volume of illegal logging, since public agencies already use indirect measures to gauge *legal* timber harvests. For example, in the United States, data on downstream production of wood are valuable for extrapolating upstream timber harvest levels.
- ³² Johnson, 2002
- ³³ ITTO, 2001: 31
- ³⁴ TRAFFIC, 2003: 6
- ³⁵ Johnson, 2002
- ³⁶ World Bank, 1999: xii
- ³⁷ World Bank, 2002: 2
- ³⁸ Based on data from importing countries, Indonesia's log exports totaled over \$26 million between January and March 2002, of which \$10 million was exported to Malaysia (Global Trade Information Service, 2003).
- ³⁹ At the 2002 World Summit on Sustainable Development, Indonesia also announced a joint Indonesia-Japan partnership to, inter alia, combat illegal logging in Indonesia ("Earth Summit Indonesia, Japan Launch Program against Haze, Illegal Logging," *AFX Australia*, News, 29 August 2002. In 2001, Indonesia and the UK also signed an MOU to curb illegal harvesting in Indonesia and stop flows of illegal wood products into the UK. According to Indonesian government sources, around 60 million cubic meters of illegal logs are cut annually in Indonesia at a cost to the government of USD 3.0 billion in lost tax revenues (ITTO, 2003: 3).
- ⁴⁰ ITTO, 2001: 8-9
- ⁴¹ ITTO, 2001: 5
- ⁴² AF&PA 2002
- ⁴³ Morse, 2003
- ⁴⁴ USAID, 2003.
- ⁴⁵ Conceivably, a study that finds that decentralization leads to increased rent-seeking might inspire some to demand comparable analyses of U.S. forest management. After all, authorities for U.S. forest management are highly decentralized. However, these demands could be deflected if the study reveals that the important determinant of rent-seeking is the *process of shifting* from centralization to decentralization and not the *degree* of decentralization. By and large, the former situation does not apply to the U.S. context because forest management functions in the U.S. are *already* decentralized.

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Appendix I

Examples of illegal practices in the forestry and forest industries sector

Illegal occupation of forestlands

- Invasion of public forested lands by either rural families, communities or private corporations to convert them to agriculture or cattle ranching
- Practice of slash and burn agriculture in invaded lands
- Induce landless peasants to illegally occupy forested areas to force governments to grant land ownership rights to them and then buying these lands from peasants.

Illegal logging

- Logging protected species
- Duplication of felling licenses
- Girdling or ring-barking, to kill trees so that they can be legally logged
- Contracting with local entrepreneurs to buy logs from protected areas
- Logging in protected areas
- Logging outside concession boundaries
- Logging in prohibited areas such as steep slopes, riverbanks and water catchments
- Removing under/oversized trees from public forests
- Extracting more timber than authorized
- Reporting high volumes extracted in forest concessions to mask the fact that part of the volume declared is extracted from non-authorized areas outside the concession boundaries
- Logging without authorization
- Obtaining logging concessions through bribes

Woodlands arson

- Setting woodlands on fire to convert it to commercial uses

Illegal timber transport, trade and timber smuggling

- Transporting logs without authorization
- Transporting illegally harvested timber
- Smuggling timber
- Exporting and importing tree species banned under international law, such as CITES.
- Exporting and importing timber in contravention of national bans

Transfer pricing and other illegal accounting practices

- Declaring lower values and volumes exported
- Declaring higher purchase prices above the prevailing market prices for inputs such as equipment or services from related companies
- Manipulating debt cash flows to transfer money to subsidiary or parent company, for example by inflating debt repayment to avoid taxes on profits
- Under-grading, under-valuing, under-measuring and misclassification of species exported or for the local market.

Source: Contreras-Hermosilla, 2003, p. 10.

Appendix II

| <i>Evidence of the importance of illegal activities in the forestry and forest industries sector</i> | | |
|---|---|---|
| Region/Country | Assessment | Source |
| ASIA | | |
| Malaysia | <p>One third or more of forest exports were illegal in the early nineties.</p> <p>Forest products exports to Japan were undeclared by 40 percent in the early nineties</p> | <p>Dudley et al, 1995</p> <p>Environmental Investigation Agency, 1996; Sizer, 1997.</p> |
| Cambodia | <p>A recent survey revealed that households and enterprises perceive corruption in the country as the leading problems for citizens and enterprises.</p> <p>Substantial problems with illegal exports through the Thai border.</p> <p>In 1997 a minimum of US\$ 184 million worth of timber was felled in Cambodia, much of it received by corrupt officials</p> <p>In 1997, 10 percent of logging was legal.</p> | <p>World Bank, 2000</p> <p>Callister, 1992</p> <p>Global Witness, 1998</p> <p>World Rainforest Movement and Forest Monitor, 1998</p> |
| Laos, Cambodia, Thailand and the Philippines | <p>Almost all timber exports in the early nineties were illegal</p> | <p>Dudley et al, 1995</p> |
| Cambodia and Vietnam | <p>Substantial illegal log trade between these two countries</p> | <p>Global Witness, 1999</p> |
| Indonesia | <p>95 percent of exports were not legal in the early nineties.</p> <p>Malaysian companies have been accused of logging illegally and smuggling logs to Malaysia</p> <p>Illegal logging supplies 52 percent of logs. In the mid 1990s, 84 percent of timber concession holders failed to obey the law.</p> <p>Losses due to illegal logging estimated to be \$3.5 per year in the mid nineties</p> <p>84 percent of timber concessionaires do not follow the law. Illegal logging is taking place in national parks</p> <p>As much as 40 percent of the pulp and paper wood supplies come from undocumented sources</p> | <p>Dudley et al, 1995</p> <p>SKEPHI, 1993</p> <p><i>Environmental Investigation Agency, 2000; Scotland, 2000</i></p> <p>World Commission on Forests and Sustainable Development, 1999</p> <p>Environmental Investigation Agency, 2000; World Resources Institute, 2000a</p> <p>Barr, 2000</p> |
| Myanmar | <p>In 1995, some 276,000 cubic meters valued at \$86 million or almost half of the country's forest exports were undeclared.</p> | <p>World Resources Institute, 1998</p> |
| Papua New Guinea | <p>Foreign companies bribed politicians and leaders and illegally logged and exported timber. They transferred funds abroad illegally</p> <p>Senior officials awarded logging rights in exchange of bribes.</p> <p>Fraudulent activities in the forestry sector led to an estimated losses in national income equivalent to the annual aid the country receives from Australia: more than 300 million Australian dollars in 1998, or \$180 million.</p> <p>In 1994 Forest Minister Tim Neville estimated that \$1 million a day were being lost to illegal practices</p> <p>Bribes were given by foreign corporations to local leaders and national ministers or members of the parliament and at least to one secretary of the Department of Forests</p> | <p>Marshall, 1990, quoting the Barnett Report.</p> <p>Sizer and Plouvier, 2000</p> <p>Glastra, 1999</p> <p>World Rainforest Movement and Forest Monitor, 1998.</p> <p>Barnett, 1992; Filer, 1996</p> |

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| Philippines | 16 million hectares of forest have shrunk to 70,000 today, mainly because of illegal logging. During the eighties the country lost \$ 1.8 billion a year because of illegal logging. This figure was close to the country's GNP. A large ADB-financed Afforestation project was reported to be affected by widespread corruption with money being diverted to finance the agenda of local politicians | ENS, October 11, 1999. Environmental Investigation Agency, 1996 Bengwayan, 1999 |
| Solomon Islands | Several Malaysian companies have been involved in a number of corruption controversies | Sizer and Plouvier, 2000 |
| LATIN AMÉRICA | | |
| Bolivia | Illegal deforestation is at least 4 times and it may be as high as 8 times legal deforestation | Contreras-Hermosilla and Vargas (2001) |
| Brazil | A presidential commission found out that fully 71 percent of the management plans in concessions did not comply with the law. As much as 90 percent of the timber was exported illegally in the early nineties 80 percent of logging in the Amazon is illegal | FoEI, 1997 Dudley et al, 1995; Greenpeace, 1999 Viana, 1998 |
| Chile | Alerce is listed under Appendix 1 of the CITES, but illegal trade continues. | WWF undated |
| Colombia | 42 percent of logging is illegal | Plan Estratégico, 1996 |
| NORTH AMERICA | | |
| Canada | 20 paper mills in Quebec illegally discharged toxic effluents in 1996 Violations to logging laws have been detected in 55 percent of areas designated for protection as areas of concern and riparian reserves The Algonquin Forestry Authority violated 35 percent of the areas of concern in the Algonquin Park Since 1998, west coast logging companies have avoided paying as much as \$149 million by "grade setting" | Ottawa House of Commons, 1998 World Resources Institute, 2000b Sierra Legal Defence Fund and Wildlands League, 2000 Anderson and Werring, 2001 |
| FORMER SOVIET UNION | | |
| Russia | The deputy head of the Federal Forestry Service, Dmitry Odintsov recently complained about the rise in illegal operations noting that there were "some timber procurement offices controlled by organized criminal groups engaged in illegal timber exports". Poachers cut down about 20 percent of the official harvest in Russia's far east. Corruption in the countries of the Commonwealth of Independent States including Russia is higher than in any other region of the world. Public corruption and arbitrary government behavior continue to be major impediments to private sector development. About 20 percent of timber logged in Russia violates the law. As much as 50 percent of logging in the Primorsky and Khabarovsk regions may be illegal There is a substantial export trade from Siberia to China | Medetsky, 2000 EBRD, 1997; Solberg and Rykowski, 2000 Greenpeace, 2000 Newell et al, 2000 Shulyakovskaya, N., 2000 |
| Georgia | In 1998, the Parliament adopted a resolution forbidding commercial logging. However, this directive is largely unenforced and illegal logging continues. | ENS, May 8, 1999 |
| AFRICA | | |
| Tanzania | As much as 500,000 ha of the country's forests are lost annually through illegal timber trade. Illegal exploitation occurs almost all over the country both in forest reserves and in unreserved forest areas. Illegal trade in forest products is especially intense in border areas. The Permanent Secretary in the Ministry of Natural Resources and Tourism admitted that some of the forestry staff are guilty of engaging in illicit timber trade. | Glastra, 1999 ENS, August 22, 1999 |
| Kenya | In the nineties logging of native forests was prohibited but, because of the lack of enforcement, native timber trade continued unabated. | Marshall and Jenkins, 1994 |

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| Cameroon | <p>During 1997-1998, over half of the operating licenses failed to comply with the law. The risk of being caught and punished for illegal operations is slight. During the period 1993-1994, only 4 percent of the citations for illegal activities in the Central and East provinces were brought to trial. A review of 63 citations for illegal activities revealed that 20% of the citations were dropped after the intervention of an influential person.</p> <p>In 1996 a Malaysian firm was reportedly illegally exporting some 30,000 cubic meters of logs.</p> <p>Working in collusion with provincial governors, corporations have circumvented the law. This has resulted in harvesting almost unlimited amounts of wood, despite legal restrictions.</p> <p>About one-third of logs harvested for the local market are illegal.</p> <p>One third of the timber output of Cameroon-Est was undeclared in 1992-1993</p> <p>French politicians have intervened to persuade the government to weaken the law and favour French companies</p> | <p>World Resources Institute, 2000</p> <p>Martin, 1996</p> <p>Seymour and Dubash, 2000; The World Bank, 1999.</p> <p>Eba'a-Atyi, 1998</p> <p>Glastra, 1999.</p> <p>Ekoko, 1997</p> |
| Liberia | <p>In 1989, recorded log exports to Europe were \$ 80 million, but the value declared at ports of entry was \$ 200 million.</p> | <p>Sizer and Plouvier, 2000</p> |
| Ghana | <p>Financial assistance granted as part of a Structural Adjustment Programme led to illegal practices on a massive scale. Several (at least 11) companies receiving British aid were implicated in fraud. 15 other companies receiving loans from the World Bank, were implicated in illegal acts.</p> <p>As much as one third of the volume harvested in the mid nineties may have been illegal.</p> <p>The Technical Director of the Ministry of Lands and Forestry complained bitterly: "Much of the felling was illegal and speculative, undertaken by unauthorized contractors....All too often the logs went to waste, huge sums of revenue were being lost and the resource was heading for oblivion with little gain"</p> | <p>Dudley et al, 1995</p> <p>FoEI, 1997</p> <p>Smith, 1996</p> |

Source: Contreras-Hermosilla, 2003, p. 32-35.

Appendix III

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